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REVIEW OF THE IMPLEMENTATION OF COMMITMENTS AND OF OTHER PROVISIONS OF THE CONVENTION

Approach to comparison of data on greenhouse gas emissions

Note by the secretariat

I. MANDATE

1. At its seventh session, the Subsidiary Body for Implementation (SBI) requested the secretariat to evaluate the feasibility of compiling and maintaining available supplementary data from authoritative sources on greenhouse gas emissions for the purpose of comparison with the national submissions from Annex I Parties and to present a report on this comparison to its ninth session (FCCC/SBI/1997/21, para. 11 (d)).

II. SCOPE OF THE NOTE

2. The note seeks further guidance from the SBI on how to fulfil the mandate outlined in paragraph 1, above. The secretariat understands the mandate to be to evaluate the feasibility of compiling and maintaining supplementary data for the purpose of comparisons with the national submissions, and seeks guidance on further work. The note defines the purpose of comparison of data, referred to below as "data comparison". It addresses the feasibility of the task by discussing the term "supplementary data from authoritative sources". The note further examines the elements that may influence data comparison. Finally, an approach to data comparison is presented and suggestions for further work are provided.

* Including the ninth sessions of the Subsidiary Body for Technological Advice and the Subsidiary Body for Implementation.

III. BACKGROUND

3. Parties are required by Article 12.1 of the Convention to submit their national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. The Conference of the Parties (COP), at its second session, decided that the national inventory of greenhouse gases from Annex I Parties should be submitted on an annual basis. The revised UNFCCC guidelines for the preparation of national communications from Annex I Parties state that "the transparency of national communications is fundamental to the success of the process for the communication and consideration of information." The guidelines further require information to be presented "in ways that are **consistent, transparent and comparable**" (FCCC/CP/1996/15/Add.1, decision 9/CP.2, emphasis added). These provisions and decisions provide the basis for the approach proposed in this note.

IV. THE PURPOSE OF DATA COMPARISON

4. The current data review process under the Convention includes the in-depth review reports and the compilations and syntheses of national communications and of annual inventory data. The purpose of the review of national communications of Annex I Parties, in accordance with decision 2/CP.1 (FCCC/CP/1995/7/Add.1), is to ensure that the COP " has accurate, consistent and relevant information at its disposal to assist it in carrying out its responsibilities". Corroboration by comparing the data provided in national submissions with data from other sources could support these ongoing processes. It could also serve to:

(a) Identify inadvertent errors, omissions or inconsistencies in the data reported to the COP and thus assist Parties in improving the quality of inventories of greenhouse gas emissions and removals; and

(b) Contribute to the ongoing work on improving methodologies for processing inventory data and provision of comparable information.

V. MEANING OF THE TERM "SUPPLEMENTARY DATA FROM AUTHORITATIVE SOURCES"

5. The term "supplementary data from authoritative sources" in the mandate could be construed in several ways according to how "authoritative" is defined. For example:

(a) Sources maintaining data collected and compiled entirely independently of Parties and hence of their national submissions to the COP; or

(b) Sources maintaining data collected and compiled by Parties for purposes other than reporting to the COP, such as data reported to other international bodies.

6. Completely independent data are rare, since most data are nationally generated. The basic source of data on greenhouse gas emissions is the national submission. Most nominally independent sets of data are, in fact, derived either directly or indirectly from activity data provided by the States themselves. In this sense it is the data submitted by States that are authoritative. For the purpose of data comparison defined in this note, the data sources for the comparison could thus be intergovernmental organizations to which Parties communicate national statistics. For example the United Nations Food and Agriculture Organization, the United Nations Economic Commission for Europe and the International Energy Agency. All of these intergovernmental bodies compile data of a similar type to that used to derive national estimates of greenhouse gas emissions.

VI. ELEMENTS INFLUENCING DATA COMPARISON

7. A number of elements affect the estimation of greenhouse gas emissions, and will influence data comparison:

(a) *The nature of the data.* Greenhouse gas emissions from sources and removals by sinks are not measured directly. Emissions are estimates derived from data concerning the human activities that give rise to emissions (activity data) multiplied by emission factors to give estimated emissions. Differences in activity data and emission factors could contribute to differences on a sectoral basis which prove to be significant or insignificant in relation to the national total greenhouse gas emissions, depending on the scale of the activity or quantity involved;

(b) *Flexibility in methods of estimation.* The Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories encourage Parties to use their own methodologies, data, or emission factors for compiling inventories. Also, they provide default methods, when national data is not available. Parties often, for sound scientific reasons, use emission factors different from those provided by the IPCC and/or other Parties.

8. There are other elements that may affect the accuracy of greenhouse gas emissions' estimates. For example, Parties may have data disaggregated at different levels. This also influences data comparison.

VII. AN APPROACH TO DATA COMPARISON

9. In view of the complexities of estimating greenhouse gas emissions, it would perhaps be appropriate and useful if the data comparison between national submissions and additional sources identified in paragraph 5, above could focus initially on the data elements on which estimates of greenhouse gas emissions are based, in particular, activity data. Activity data derive

from direct measurements of human activities, such as the amount of fuel used and the number of animals kept, whereas emission factors are based on scientific and technical assessments of emissions from different sources, which are subject to revision over time in the light of improved scientific knowledge.

10. Data comparison may first be made in three sectors - energy, industrial processes and agriculture. These sectors cover most greenhouse gas emissions and the supplementary data from authoritative sources are generally available.

11. In addition, as annually submitted inventories have become standard, it would be meaningful for this exercise to include comparisons of changes in activity data and emission factors over time for each Party.

VIII. FURTHER WORK

12. The data comparison could be conducted using the database developed in the secretariat, as well as other electronic data processing means. Such work has been initiated by the secretariat as part of its work to provide information on emission trends and insights into methodological problems (FCCC/SBSTA/1998/7, FCCC/SBSTA/1998/8). The secretariat has not explicitly provided information on changes in activity data and emission factors used for the same year over time.

13. This ongoing work would need to be further strengthened in order to :

(a) Compile activity data available from relevant intergovernmental bodies and compare them with data provided in the national submissions;

(b) Compare changes in activity data and emission factors reported by Parties in national submissions over time.

14. The secretariat invites comments on the proposed approach and guidance on further work. Since there is no provision in the programme budget for the year 1999 for work related to data comparison, the resource implications of any further work by the secretariat would need to be considered in the context of the programme budget for the biennium 2000-2001.